FRBSF Weekly Letter

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Views on Deficits and Interest Rates

One of the most confusing issues in the present debate over economic policy is the argument over the effect of federal government deficits, both current and projected, on interest rates. Widespread confusion is understandable, in view of the conflicting views on the subject expressed by professional economists. Indeed, during the same set of hearings before the Joint Economic Committee of the U.S. Congress in the fall of 1983, a representative of the U.S. Treasury concluded that the relationship between the federal deficit and interest rates remained an open case; a representative of the National Association of Realtors argued that the current deficit was raising interest rates; and the then-chairman of the Council of Economic Advisers argued that just the *prospect* of large deficits through the rest of the decade was sufficient to raise real long-term interest rates and thus crowd out current activity in interest-sensitive sectors of the economy.

Frameworks for understanding

The purpose of this *Letter* is to outline four different frameworks that can be applied to the analysis of the relationship between deficits and interest rates. It is important to understand that each of these frameworks predicts a different effect on interest rates for deficits. The controversy is not a new one in economics. The same issues have been disputed in one context or another for fifty years. Unfortunately, research efforts to date have not been able to discriminate unambiguously among the various frameworks.

It is also important to understand that the controversy over the impact of deficits on interest rates usually focuses on a very limited issue. Frequently, the exact question addressed is whether financing a given amount of government expenditures by borrowing has a different effect on economic activity and interest rates than financing by taxation. Questions of the impact of changes in the size of the government sector or whether the new debt issued is purchased by the public or monetized by the Federal Reserve have not been major concerns of the recent controversy.

Loanable funds theories

Loanable funds theories of interest rate determination view real, or inflation-adjusted, interest rates as the "price" that adjusts to equate the supply of and demand for loanable funds. Thus, proponents of this theoretical approach focus on the size of current government deficits—which are one of the sources of demand for funds—in relation to total private savings generated in the economy. They believe an increase in the current government deficit relative to the flow of new private savings causes real interest rates to rise to restore equilibrium between the demand for and supply of loanable funds. Generally, these analysts also view the supply of private savings as quite unresponsive to changes in real interest rates, at least in the short-run. They conclude that the rise in real interest rates must reduce the demand for loanable funds from other sources, notably for financing business plant and equipment and housing, by approximately the same amount as the increase in demand presented by government borrowing. Careful adherents to this approach acknowledge that the reduction in the quantity of loanable funds demanded also could come at the expense of investment abroad by affecting the net capital flow from the U.S. to foreign countries.

Portfolio balance theories

Portfolio balance theories of interest rate determination emphasize that, at every point in time, the outstanding *stocks* of all assets in an economy, real and financial, must be held in the portfolios of some private wealthholders (households and/or firms). In this framework, changes in interest rates affect the decisions of wealthholders to hold the outstanding stocks of all available assets, including government debt.

This framework explicitly recognizes that a temporary increase in the deficit has a different effect from an increase that persists for several years. Compared to the enormous size of outstanding stocks of government bonds and other assets, the flow of new government debt coming on to the market in a single year is small. Thus, it should not take much of a change in interest rates to persuade wealthholders to absorb a relatively small addition to their holdings of government bonds.

In contrast, deficits that are sustained over a long period of time accumulate into a large percentage

change in the stock of government debt. This ultimately will require a relatively large increase in real interest rates to induce wealthholders to absorb the cumulative deficits into their portfolios.

Thus, while loanable funds theorists predict that substantial changes in real interest rates will result from deficits that are large in comparison with current savings flows in an economy, portfolio balance theorists predict such effects only after government deficits cause significant changes in the size of the outstanding government debt relative to the total wealth of the economy.

Forward looking expectations

A variant of the portfolio balance theory advocated by some analysts in the current discussion over the impact of government deficits on interest rates argues that *expectations* of on-going deficits in the future will affect long-term interest rates in the present. This argument relies in part on the proposition that market participants understand that a continuing large deficit means that interest rates in the future will have to rise significantly to persuade investors to purchase the growing stock of government bonds outstanding.

The other part of the argument involves the term structure theory of interest rates, which argues that current long-term interest rates are a weighted average of today's short-term interest rates and expectations about future short-term yields. Thus, the prospect of large deficits over a long period into the future, which means higher short-term yields in the future even though current short-term rates are largely unchanged, is translated by the market into a higher current long-term yield.

Neo-Richardian theories

The starting point for the neo-Richardian view of the impact of deficit finance is the observation that the current sale of government debt requires additional taxation in the future to pay the interest costs and/or the principal when the newly issued debt matures. In this view, a decision by the government to finance current government expenditures by borrowing rather than by taxing is in reality a decision to increase taxes in the future, or, to postpone them for the present. The value discounted to the present of the future taxes needed to service and repay the new debt liabilities equals the market value of the new debt. This is true even if the government never plans to repay its debt but plans instead to roll the debt over in perpetuity.

The argument that investors consider future tax liabilities in valuing assets is widely accepted in individual cases of certain types of securities. For example, it is generally accepted that municipal bonds, which are exempt from federal income taxation, sell at lower market yields than Treasury securities of similar maturity because of the difference in the future taxes that will have to be paid on the two types of securities.

Neo-Richardians generalize this principle from individual examples to apply to the economy as a whole. In particular, they use it to answer the question of whether wealthholders regard their holdings of government securities as contributing anything, on balance, to their wealth, or net worth position. The neo-Richardian view is that investors assume that the value of the government securities in their portfolios is offset by an implicit tax liability equal to the discounted value of the future taxes the government will have to levy to service and repay the securities.

The basic neo-Richardian position is that the offset is complete, meaning that on balance the private sector regards its holdings of government debt as contributing nothing to the sector's wealth position. A less extreme variant is that the offset is incomplete because the value of government securities derives from their unique feature as a default-free instrument as well as from the income they yield. According to this variant, the excess of the market value of government securities over the discounted value of the corresponding tax liabilities reflects the premium the market places on this feature.

If taxpayers behave according to the basic neo-Richardian view, they regard their aggregate net wealth position as unchanged when the government borrows to finance a deficit. If, in addition, the fundamental determinant of their consump-

tion plans is their net wealth position, a switch from financing government expenditures by taxation to financing by borrowing brings forth an increase in private savings equal to the market value of the new government debt. This occurs because the reduction in taxes increases current disposable income by the same amount, yet there is no change in private consumption expenditures because private wealth has not changed. Thus, the increase in disposable income is entirely saved. The increase in the demand for loanable funds from the extra government borrowing is therefore exactly matched by additional savings, leaving the rate of interest unchanged.

Conclusion

Much of the confusion about the impact of government deficits on interest rates and economic activity in general is the result of a failure to identify properly the theories applied in different analyses. At least four distinct theories have been used to analyze the effect of the current and prospective federal fiscal situation. They produce predictions ranging from no effect on real interest rates from debt-financed government expenditures (versus tax-financing) to significant effects on current real interest rates from any deficit that is large relative to current private savings.

At this time, economic research is still trying to discriminate among the competing frameworks, but because the elements of the various theories are not mutually exclusive, the task is a difficult one. Until a better understanding is reached on the importance of these elements in actual market behavior, predictions of the impact of government deficits on real interest rates will remain imprecise.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 04/03/85	Change from 03/27/85	Change from 04/04/84 Dollar	Change from 04/04/84 Percent[7]
Loans, Leases and Investments[1] [2]	190,223	1,039	12,398	6.9
Loans and Leases[1] [6]	172,242	609	14,115	8.9
Commercial and Industrial	52,873	– 4	5,020	10.4
Real estate	62,588	70	2,688	4.4
Loans to Individuals	33,281	148	5,986	21.9
Leases	5,325	3	314	6.2
U.S. Treasury and Agency Securities[2]	11,109	461	– 1,129	– 9.2
Other Securities[2]	6,872	– 31	– 589	– 7.8
Total Deposits	197,937	4,524	8,126	4.2
Demand Deposits	47,454	3,253	970	2.0
Demand Deposits Adjusted[3]	30,898	1,450	923	3.0
Other Transaction Balances[4]	14,116	1,025	1,083	8.3
Total Non-Transaction Balances[6]	136,367	246	6,072	4.6
Money Market Deposit Accounts—Total	44,027	138	3,299	8.1
Time Deposits in Amounts of $100,000 or more	38,940	– 124	1,005	2.6
Other Liabilities for Borrowed Money[5]	20,110	806	2,681	15.3

Two Week Averages of Daily Figures	Period ended 03/25/85	Period ended 03/11/85
Reserve Position, All Reporting Banks		
Excess Reserves (+)/Deficiency (–)	67	63
Borrowings	36	32
Net free reserves (+)/Net borrowed(–)	31	30

[1] Includes loss reserves, unearned income, excludes interbank loans
[2] Excludes trading account securities
[3] Excludes U.S. government and depository institution deposits and cash items
[4] ATS, NOW, Super NOW and savings accounts with telephone transfers
[5] Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources
[6] Includes items not shown separately
[7] Annualized percent change